API-01-20-US-SeqList.ST25 SEQUENCE LISTING

	•	
<110>	Sanofi Pasteur, Ltd. Therion Biologics, Inc.	
<120>	Modified CEA Nucleic Acid and Expression Vectors	
<130>	API-01-20-US	
<140> <141>	10/510,677 2003-04-09	
<150> <151>	us 60/370,972 2002-04-09	
<160>	32	
<170>	PatentIn version 3.3	
<210> <211> <212> <213>	1 3564 DNA Homo sapiens	
<220> <221> <222> <223>	misc_feature (1663)(1663) n is a, c, g, or t	
<400> agcagg	1 accg gggcctgtgt cgctatgggt tcccccgccg ccccggaggg agcgctgggc	60
tacgtc	cgcg agttcactcg ccactcctcc gacgtgctgg gcaacctcaa cgagctgcgc	120
ctgcgc	ggga tcctcactga cgtcacgctg ctggttggcg ggcaacccct cagagcacac	180
aaggca	gttc tcatcgcctg cagtggcttc ttctattcaa ttttccgggg ccgtgcggga	240
gtcggg	gtgg acgtgctctc tctgcccggg ggtcccgaag cgagaggctt cgccctcta	300
ttggac	ttca tgtacacttc gcgcctgcgc ctctctccag ccactgcacc agcagtccta	360
gcggcc	gcca cctatttgca gatggagcac gtggtccagg catgccaccg cttcatccag	420
gccagc	tatg aacctctggg catctccctg cgcccctgg aagcagaacc cccaacaccc	480
ccaacg	gccc ctccaccagg tagtcccagg cgctccgaag gacacccaga cccacctact	540
gaatct	cgaa gctgcagtca aggccccccc agtccagcca gccctgaccc caaggcctgc	600
aactgg	aaaa agtacaagta catcgtgcta aactctcagg cctcccaagc agggagcctg	660
gtcggg	gaga gaagttctgg tcaaccttgc ccccaagcca ggctccccag tggagacgag	720
gcctcc	agca gcagcagcag cagcagcagc agcagcagtg aagaaggacc cattcctggt	780
ccccag	agca ggctctctcc aactgctgcc actgtgcagt tcaaatgtgg ggctccagcc	840
agtacc	ccct acctcctcac atcccaggct caagacacct ctggatcacc ctctgaacgg	900
gctcgt	ccac taccgggagt gaattttca gctgccagaa ctgtgaggct gtggcagggt	960

			01 20			
gctcatcggg	ggctggactc		-01-20-US-S ggggacgaag		taagtgtcag	1020
ctgtgccggt	cttcgttccg	ctacaagggc	aaccttgcca	gtcaccgtac	agtgcacaca	1080
ggggaaaagc	cttaccactg	ctcaatctgc	ggagcccgtt	ttaaccggcc	agcaaacctg	1140
aaaacgcaca	gccgcatcca	ttcgggagag	aagccgtata	agtgtgagac	gtgcggctcg	1200
cgctttgtac	aggtggcaca	tctgcgggcg	cacgtgctga	tccacaccgg	ggagaagccc	1260
tacccttgcc	ctacctgcgg	aacccgcttc	cgccacctgc	agaccctcaa	gagccacgtt	1320
cgcatccaca	ccggagagaa	gccttaccac	tgcgacccct	gtggcctgca	tttccggcac	1380
aagagtcaac	tgcggctgca	tctgcgccag	aaacacggag	ctgctaccaa	caccaaagtg	1440
cactaccaca	ttctcggggg	gccctagctg	agcgcaggcc	caggccccac	ttgcttcctg	1500
cgggtgggaa	agctgcaggc	ccaggccttg	cttccctatc	aggcttgggc	ataggggtgt	1560
gccaggccac	tttggtatca	gaaattgcca	ccctcttaat	ttctcactgg	ggagagcagg	1620
ggtggcagat	cctggctaga	tctgcctctg	ttttgctggt	canaccctct	tcccacaag	1680
ccagattgtt	tctgaggaga	gagctagcta	ggggctggga	aaggggagag	attggagtcc	1740
tggtctccct	aagggaatag	ccctccacct	gtggccccca	ttgcattcag	tttatctgta	1800
aaatataatt	tattgaggcc	tttgggtggc	accggggcct	tcattcgatt	gcatttccca	1860
ctccctctt	ccacaagtgt	gattaaaagt	gaccagaaac	acagaaggtg	agatcacagc	1920
tctgctggca	gagattacta	gcccttggct	ctctcgtttg	gcttgggtat	tttatattat	1980
ttctgtcata	acttttatct	ttagaattgt	tctttctcct	gtttgtttgc	ttgttagttt	2040
gtttaaaatg	gaaaaagggg	ttctctgtgt	tctgcccctg	taattctagg	tctggaacct	2100
ttatttgttc	tagggcagct	ctgggaacat	gcgggattgt	ggaattgggt	caggaaccct	2160
ctctggtatt	ctggatgttg	taggttctct	agcagtctag	aaatggatac	agacatttct	2220
ctgttcttca	agggtgatag	gaaccattat	gttgagccca	aaatggaagt	aataataaat	2280
gcctcctgga	ggctgtgggt	gtgggggatt	ctgtatctgg	attccgtatc	actccaactg	2340
gaggctgtgg	gtgtggggga	ttctgtatct	ggattccgta	tcactccaag	tggaggctgg	2400
caggtttttc	tgcaagatgg	tccagaatct	aaaatgtccc	attaatctgg	tcacttgggt	2460
ttggctctgc	tgtatccatc	tatagtggta	gagacccacc	agggctcaag	tggagtccat	2520
catcctccca	cgggggcctg	ttcttagtac	tgagttgatc	gctccatggg	ggagagatca	2580
gacattcctt	atcagagatg	atgtgacctt	ttctgactct	gcccagtctc	tatgaatgtt	2640
atggcctagg	gaagaatcat	gaaactcttt	agcttgatta	gatggtaaac	agtgttaacc	2700
catcctttac	tacagaggca	tatgggtttg	aatgttacct	ggggttctct	ctattgagtt	2760
gagccccttc	ttcctttagt	gggttttgga	catcttctgg	caagtgtcca	gatgccagaa	2820
ccttcttttc	ctctagaagg	gatggtgctt	ggtaacctta Page	ccttttaaaa 2	gctgggtctg	2880

				•		
tgacctggtc	ttcccatccc	tgcattcctg	tctggaacca	gtgaatgcat	tagaaccttc	2940
cataggaaaa	gaaaaggggc	tgagttccat	tctgggtttg	ctgtagtttg	gttgggatta	3000
ttgttggcat	tacagatgta	aaagattgac	tagcccatag	gccaaaggcc	tgttctagtt	3060
gaccaagttt	caagtaggat	taagaggttg	gttgaggggt	gcagtttctg	gtgtaggcca	3120
ggtaggtaga	aagtgaggaa	cagggttgcc	tcttggctgg	gtggagtctc	tgaaatgtta	3180
gaagaagcgc	tgaagccttg	attgatagtt	ctgccccttg	ttgccctggg	gcttatctga	3240
ttatgggacg	agggtagaaa	gtaagaagca	cttttgaatt	tgtggggtag	aacttcaaca	3300
ataagtcagt	tctagtggct	gtcgcctggg	gactagtgag	aaagctactc	ttctccctct	3360
tccctctttc	tccccatggc	cccactgcag	aattaaagaa	ggaagaaggg	aaggcggagg	3420
agtctataag	aaggaatcat	gatttctatt	tagcagattg	gatgggcagg	tggagaatgc	3480
ctgggggtag	aaatgttaga	tcttgcaaca	tcagatcctt	ggaataaaga	agcctctctg	3540
cgcaaaaaaa	aaaaaaaaa	aaaa				3564
) o sapiens					
<400> 2 atgggttccc	ccgccgcccc	ggagggagcg	ctgggctacg	tccgcgagtt	cactcgccac	60
tcctccgacg	tgctgggcaa	cctcaacgag	ctgcgcctgc	gcgggatcct	cactgacgtc	120
acgctgctgg	ttggcgggca	acccctcaga	gcacacaagg	cagttctcat	cgcctgcagt	180
ggcttcttct	attcaatttt	ccggggccgt	gcgggagtcg	gggtggacgt	gctctctctg	240
cccgggggtc	ccgaagcgag	aggcttcgcc	cctctattgg	acttcatgta	cacttcgcgc	300
ctgcgcctct	ctccagccac	tgcaccagca	gtcctagcgg	ccgccaccta	tttgcagatg	360
gagcacgtgg	tccaggcatg	ccaccgcttc	atccaggcca	gctatgaacc	tctgggcatc	420
tccctgcgcc	ccctggaagc	agaaccccca	acacccccaa	cggcccctcc	accaggtagt	480
cccaggcgct	ccgaaggaca	cccagaccca	cctactgaat	ctcgaagctg	cagtcaaggc	540
cccccagtc	cagccagccc	tgaccccaag	gcctgcaact	ggaaaaagta	caagtacatc	600
gtgctaaact	ctcaggcctc	ccaagcaggg	agcctggtcg	gggagagaag	ttctggtcaa	660
ccttgccccc	aagccaggct	ccccagtgga	gacgaggcct	ccagcagcag	cagcagcagc	720
agcagcagca	gtgaagaagg	acccattcct	ggtccccaga	gcaggctctc	tccaactgct	780
gccactgtgc	agttcaaatg	tggggctcca	gccagtaccc	cctacctcct	cacatcccag	840
gctcaagaca	cctctggatc	accctctgaa	cgggctcgtc	cactaccggg	aagtgaattt	900
ttcagctgcc	agaactgtga	ggctgtggca	gggtgctcat Page	cggggctgga 3	ctccttggtt	960

cctggggacg aagacaaacc	ctataagtgt	cagctgtgcc	ggtcttcgtt	ccgctacaag	1020
ggcaaccttg ccagtcatcg	tacagtgcac	acaggggaaa	agccttacca	ctgctcaatc	1080
tgcggagccc gttttaaccg	gccagcaaac	ctgaaaacgc	acagccgcat	ccattcggga	1140
gagaagccgt ataagtgtga	gacgtgcggc	tcgcgctttg	tacaggtggc	acatctgcgg	1200
gcgcacgtgc tgatccacac	cggggagaag	ccctaccctt	gccctacctg	cggaacccgc	1260
ttccgccacc tgcagaccct	caagagccac	gttcgcatcc	acaccggaga	gaagccttac	1320
cactgcgacc cctgtggcct	gcatttccgg	cacaagagtc	aactgcggct	gcatctgcgc	1380
cagaaacacg gagctgctac	caacaccaaa	gtgcactacc	acattctcgg	ggggccctag	1440
<210> 3 <211> 65 <212> DNA <213> Homo sapiens <400> 3					
atacccggaa ctccctaagc	cttctattag	ctccaataat	agtaagcctg	tcgaagacaa	60
agatg					65
<210> 4 <211> 70 <212> DNA <213> Homo sapiens <400> 4					
gcctgtgtcc cctagactcc	aactcagcaa	cggaaataga	actctgaccc	tgtttaacgt	60
gaccaggaac					70
<210> 5 <211> 70 <212> DNA <213> Homo sapiens <400> 5					
acgtgcttta cggacccgat	gctcctacaa	tcagccctct	aaacacaagc	tatagatcag	60
gggaaaatct					70
<210> 6 <211> 70 <212> DNA <213> Homo sapiens					
<400> 6 acgttaaaca gggtcagagt	tctatttccg	ttgctgagtt	ggagtctagg	ggacacaggc	60
agggactggt					70
_					

		API	-01-20-05-5	eqL1St.S125		
<211> <212> <213>	70 DNA Homo sapiens			·		
<400> ctgatct	7 cata gcttgtgttt	agagggctga	ttgtaggagc	atcgggtccg	taaagcacgt	60
tgagaat	cac					70
<210> <211> <212> <213>	8 63 DNA Homo sapiens					
<400> gatcca	8 ctat tgttcacggt	aatattggga	atgaacagtt	cctgggtgga	ctgttggaaa	60
gtg						63
<210> <211> <212> <213>	9 70 DNA Homo sapiens					
<400> gacaca	9 gcaa gctacaaatg	cgaaacccaa	aatccagtca	gcgccaggag	gtctgattca	60
gtgatt	ctca					70
<210> <211> <212> <213>	10 70 DNA Homo sapiens					
<400> tgaatc	10 agac ctcctggcgc	tgactggatt	ttgggtttcg	catttgtagc	ttgctgtgtc	60
gttcct	ggtc					70
<210> <211> <212> <213>	11 79 DNA Homo sapiens				·	
<400> gatcct	11 acac gtgccaagct	cacaatagcg	acaccggact	caaccgcaca	accgtgacga	60
cgatta	ccgt gtatgccga					79
<210> <211> <212> <213>	12 70 DNA Homo sapiens					
<400> catcct	12 caac tgggttagaa	ttgttactag	ttatgaatgg	ttttggtggc	tcggcataca	60
cggtaa	tcgt		Page	5		70

<210> <211> <212> <213>	13 80 DNA Homo sapiens					
<400> ttctaac	13 ccca gttgaggatg	aggacgcagt	tgcattaact	tgtgagccag	agattcaaaa	60
taccact	ttat ttatggtggg					80
<210> <211> <212> <213>	14 80 DNA Homo sapiens					
<400> gtctaat	14 tgat aaccgcacat	tgacactcct	gtccgttact	cgcaatgatg	taggacctta	60
tgagtg	tggc attcagaatg					80
<210> <211> <212> <213>	15 80 DNA Homo sapiens					
<400> tttgta	15 tggc ccagacgacc	caactatatc	tccatcatac	acctactacc	gtcccggcgt	60
gaactt	gagc ctttcttgcc					80
<210> <211> <212> <213>	16 80 DNA Homo sapiens					
<400> tgatgga	16 aaac attcagcagc	atactcaaga	gttatttata	agcaacataa	ctgagaagaa	60
cagcgga	actc tatacttgcc					80
<210> <211> <212> <213>						
<400> taaaaca	17 aata actgtttccg	cggagctgcc	caagccctcc	atctccagca	acaactccaa	60
acccgt	ggag gacaaggatg					80
<210> <211> <212> <213>	18 80 DNA Homo sapiens					
<400>	18					

		API-	-01-20-US-Se	eqList.ST25		
atgtgcg	gtt atcattagac				tggttattga	60
cccacca	itaa ataagtggta					80
<210> <211> <212> <213>	19 80 DNA Homo sapiens					
<400> ggtcgto	19 ctgg gccatacaaa	acattaagga	taacagggtc	ggagtgatca	acggataatt	60
cattcto	gaat gccacactca					80
<210> <211> <212> <213>	20 80 DNA Homo sapiens					
<400> gctgctg	20 gaat gtttccatca	atcagccagg	agtactgtgc	aggggggttg	gatgctgcat	60
ggcaaga	aaag gctcaagttc					80
<210> <211> <212> <213>	21 80 DNA Homo sapiens					
<400> cggaaa	21 cagt tattgtttta	actgtagtcc	tgctgtgacc	actggctgag	ttattggcct	60
ggcaag	tata gagtccgctg					80
<210> <211> <212> <213>	22 47 DNA Homo sapiens					
<400> cctcag	22 gttc acaggtgaag	gccacagcat	ccttgtcctc	cacgggt		47
<210> <211> <212> <213>	23 2106 DNA Homo sapiens					
<400> atggag	23 tctc cctcggcccc	tcccacaga	tggtgcatcc	cctggcagag	gctcctgctc	60
acagcc	tcac ttctaacctt	ctggaacccg	cccaccactg	ccaagctcac	tattgaatcc	120
acgccg	ttca atgtcgcaga	ggggaaggag	gtgcttctac	ttgtccacaa	tctgccccag	180
catctt	tttg gctacagctg	gtacaaaggt	gaaagagtgg	atggcaaccg	tcaaattata	240
ggatat	gtaa taggaactca	acaagctacc	ccagggcccg	catacagtgg	tcgagagata	300

API-01-20-US-SeqList.ST25 360 atatacccca atgcatccct gctgatccag aacatcatcc agaatgacac aggattctac 420 accctacacg tcataaagtc agatcttgtg aatgaagaag caactggcca gttccgggta 480 tacccggagc tgcccaagcc ctccatctcc agcaacaact ccaaacccgt ggaggacaag 540 gatgctgtgg ccttcacctg tgaacctgag actcaggacg caacctacct gtggtgggta 600 aacaatcaga gcctcccggt cagtcccagg ctgcagctgt ccaatggcaa caggaccctc 660 actctattca atgtcacaag aaatgacaca gcaagctaca aatgtgaaac ccagaaccca 720 gtgagtgcca ggcgcagtga ttcagtcatc ctgaatgtcc tctatggccc ggatgccccc 780 accatttccc ctctaaacac atcttacaga tcaggggaaa atctgaacct ctcctgccac 840 gcagcctcta acccacctgc acagtactct tggtttgtca atgggacttt ccagcaatcc 900 acccaagage tetttatece caacateact gtgaataata gtggateeta taegtgeeaa 960 gcccataact cagacactgg cctcaatagg accacagtca cgacgatcac agtctatgag 1020 ccacccaaac ccttcatcac cagcaacaac tccaaccccg tggaggatga ggatgctgta 1080 gccttaacct gtgaacctga gattcagaac acaacctacc tgtggtgggt aaataatcag 1140 agcctcccgg tcagtcccag gctgcagctg tccaatgaca acaggaccct cactctactc 1200 agtgtcacaa ggaatgatgt aggaccctat gagtgtggaa tccagaacga attaagtgtt 1260 gaccacagcg acccagtcat cctgaatgtc ctctatggcc cagacgaccc caccatttcc 1320 ccctcataca cctattaccg tccaggggtg aacctcagcc tctcctgcca tgcagcctct 1380 aacccacctg cacagtattc ttggctgatt gatgggaaca tccagcaaca cacacaagag 1440 ctctttatct ccaacatcac tgagaagaac agcggactct atacctgcca ggccaataac 1500 tcagccagtg gccacagcag gactacagtc aagacaatca cagtctctgc ggagctgccc 1560 aagccctcca tctccagcaa caactccaaa cccgtggagg acaaggatgc tgtggccttc 1620 acctgtgaac ctgaggctca gaacacaacc tacctgtggt gggtaaatgg tcagagcctc 1680 ccagtcagtc ccaggctgca gctgtccaat ggcaacagga ccctcactct attcaatgtc 1740 acaagaaatg acgcaagagc ctatgtatgt ggaatccaga actcagtgag tgcaaaccgc 1800 agtgacccag tcaccctgga tgtcctctat gggccggaca cccccatcat ttccccccca gactcgtctt acctttcggg agcggacctc aacctctcct gccactcggc ctctaaccca 1860 1920 tccccgcagt attcttggcg tatcaatggg ataccgcagc aacacacaca agttctcttt 1980 atcgccaaaa tcacgccaaa taataacggg acctatgcct gttttgtctc taacttggct 2040 actggccgca ataattccat agtcaagagc atcacagtct ctgcatctgg aacttctcct ggtctctcag ctggggccac tgtcggcatc atgattggag tgctggttgg ggttgctctg 2100 2106 atatag

		APT.	-01-20-05-50	eqL1St.SI25		
<210> <211> <212> <213>	24 47 DNA synthetic					
<400> ggacgg1	24 tagt aggtgtatga	tggagatata	gttgggtcgt	ctgggcc		47
<210> <211> <212> <213>	25 27 DNA Synthetic					
<400> cagaate	25 gaat tatccgttga	tcactcc				27
<210> <211> <212> <213>	26 45 DNA Synthetic					
<400> cgtgac	26 gacg attaccgtgt	atgagccacc	aaaaccattc	ataac		45
<210> <211> <212> <213>	27 45 DNA Synthetic					
<400> gttatg	27 aatg gttttggtgg	ctcatacacg	gtaatcgtcg	tcacg		45
<210> <211> <212> <213>	28 2106 DNA Synthetic					
<400> atggag	28 tctc cctcggcccc	tccccacaga	tggtgcatcc	cctggcagag	gctcctgctc	60
acagcc	tcac ttctaacctt	ctggaacccg	cccaccactg	ccaagctcac	tattgaatcc	120
acgccg	ttca atgtcgcaga	ggggaaggag	gtgcttctac	ttgtccacaa	tctgccccag	180
catctt	tttg gctacagctg	gtacaaaggt	gaaagagtgg	atggcaaccg	tcaaattata	240
ggatat	gtaa taggaactca	acaagctacc	ccagggcccg	catacagtgg	tcgagagata	300
atatac	ccca atgcatccct	gctgatccag	aacatcatcc	agaatgacac	aggattctac	360
acccta	cacg tcataaagtc	agatcttgtg	aatgaagaag	caactggcca	gttccgggta	420
tacccg	gaac tccctaagcc	ttctattagc	tccaataata	gtaagcctgt	cgaagacaaa	480
gatgcc	gtcg cttttacatg	cgagcccgaa	actcaagacg	caacatatct	ctggtgggtg	540
aacaac	cagt ccctgcctgt	gtcccctaga	ctccaactca	gcaacggaaa	tagaactctg	600
accctg	ttta acgtgaccag	gaacgacaca	gcaagctaca	aatgcgaaac	ccaaaatcca	660

gtcagcgcca	ggaggtctga	ttcagtgatt	ctcaacgtgc	tttacggacc	cgatgctcct	720
acaatcagcc	ctctaaacac	aagctataga	tcaggggaaa	atctgaatct	gagctgtcat	780
gccgctagca	atcctcccgc	ccaatacagc	tggtttgtca	atggcacttt	ccaacagtcc	840
acccaggaac	tgttcattcc	caatattacc	gtgaacaata	gtggatccta	cacgtgccaa	900
gctcacaata	gcgacaccgg	actcaaccgc	acaaccgtga	cgacgattac	cgtgtatgag	960
ccaccaaaac	cattcataac	tagtaacaat	tctaacccag	ttgaggatga	ggacgcagtt	1020
gcattaactt	gtgagccaga	gattcaaaat	accacttatt	tatggtgggt	caataaccaa	1080
agtttgccgg	ttagcccacg	cttgcagttg	tctaatgata	accgcacatt	gacactcctg	1140
tccgttactc	gcaatgatgt	aggaccttat	gagtgtggca	ttcagaatga	attatccgtt	1200
gatcactccg	accctgttat	ccttaatgtt	ttgtatggcc	cagacgaccc	aactatatct	1260
ccatcataca	cctactaccg	tcccggcgtg	aacttgagcc	tttcttgcca	tgcagcatcc	1320
aaccccctg	cacagtactc	ctggctgatt	gatggaaaca	ttcagcagca	tactcaagag	1380
ttatttataa	gcaacataac	tgagaagaac	agcggactct	atacttgcca	ggccaataac	1440
tcagccagtg	gtcacagcag	gactacagtt	aaaacaataa	ctgtttccgc	ggagctgccc	1500
aagccctcca	tctccagcaa	caactccaaa	cccgtggagg	acaaggatgc	tgtggccttc	1560
acctgtgaac	ctgaggctca	gaacacaacc	tacctgtggt	gggtaaatgg	tcagagcctc	1620
ccagtcagtc	ccaggctgca	gctgtccaat	ggcaacagga	ccctcactct	attcaatgtc	1680
acaagaaatg	acgcaagagc	ctatgtatgt	ggaatccaga	actcagtgag	tgcaaaccgc	1740
agtgacccag	tcaccctgga	tgtcctctat	gggccggaca	cccccatcat	ttcccccca	1800
gactcgtctt	acctttcggg	agcggacctc	aacctctcct	gccactcggc	ctctaaccca	1860
tccccgcagt	attcttggcg	tatcaatggg	ataccgcagc	aacacacaca	agttctcttt	1920
atcgccaaaa	tcacgccaaa	taataacggg	acctatgcct	gttttgtctc	taacttggct	1980
actggccgca	ataattccat	agtcaagagc	atcacagtct	ctgcatctgg	aacttctcct	2040
ggtctctcag	ctggggccac	tgtcggcatc	atgattggag	tgctggttgg	ggttgctctg	2100
atatag						2106

<210> 29 <211> 35 <212> DNA <213> Synthetic

<400> 29 ctggcgcgcc ttctttattc tatacttaaa aagtg

<210> 30 <211> 36

35

		API-01-20-US-SeqList.ST25	
<212> <213>	DNA Synthetic	•	
<400> ctggtac		tcagagcaac cccaac	36
<210> <211> <212> <213>	26		
<400> ttggato	31 ccat ggagtctccc	tcggcc	26
<210> <211> <212> <213>	26		٠
<400> ttggate	32 ccct atatcagagc	aacccc	26